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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,353	01/23/2002	Toru Kono	108179-00006	5309

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EXAMINER

KYLE, MICHAEL J

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,353

Applicant(s)

KONO, TORU

Examiner

Michael J Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "split parts 101" (page 1, line 24). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. Figures 15-18 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 2 is objected to because of the phrase "step-like" in line 4 of the claim. It is unclear what is meant by this phrase and it is suggested that applicant should clarify.
4. Claim 5 is objected to because of the phrase "plate-type". It is unclear what is meant by this phrase and it is suggested that applicant should clarify.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bagepalli et al (U.S. Patent No. 6,030,175) in view of Tong (U.S. Patent No. 6,431,550).

Bagepalli et al discloses a brush seal device in which splitting surfaces (56, 58, 60, 62) of a plurality of split body parts (26, 28) are combined with one another and which is mounted to one of opposed component members (78) so as to seal a gap between the component members (76, 78) comprising a brush seal (32) formed in a wall shape in the longitudinal direction of a fixture portion (64) which is fixed at one end thereof, the split body parts that hold the brush seal (32) and each of which has connecting portions (30) that are split and that extend along the splitting surfaces. Bagepalli et al also discloses each of the splitting surfaces is composed of splitting direction extending surfaces that extend in such a direction as to split the split body parts and a longitudinal surface that extends in the longitudinal direction of the split body parts (26, 28) and that forms a step interposed between the splitting direction extending surfaces (figure 1, surfaces 58 and 50 form a step). Bagepalli et al does not disclose that each of the splitting direction-extending surfaces has shutoff means for sealing a gap between the splitting direction extending surfaces that are combined with each other.

7. Tong teaches shutoff means (52) for sealing a gap between splitting direction extending surfaces that are combined with each other (figure 4), in order to prevent leakage through a potential gap between seal ring segments. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bagepalli et al as taught by Tong in order to prevent leakage through a potential gap between seal ring segments. In addition, tong teaches the shut off means (52) has longitudinal contact surfaces formed in a step structure

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(60, 62) of splitting direction extending surfaces and is constructed in a joining portion where the contact surfaces are joined with each other.

8. With respect to claims 4 and 5, Tong teaches that the shutoff means is constructed of an elastic sealing plate that extends across and shut off the gap between opposed faces of the splitting direction extending surfaces. The examiner considers the brush seal (52) of Tong, as a whole, to form a plate. Tong also teaches the shutoff means (52) is constructed of an elastically deformable plate sealing portion that is disposed between opposed faces of the splitting direction extending surfaces so as to shut off the gap therebetween and that is joined with the opposed faces.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bagepalli et al in view of Tong as applied to claim 2 above, and in further view of Julien et al (U.S. Patent No. 5,226,683). Neither Bagepalli et al nor Tong discloses the shut off means has a sealing plate made from a super-elastic alloy material on the contact surfaces.

10. Julien et al teaches the use of a sealing plate made from a super-elastic alloy material in order to provide a seal that can be reused many time without losing it sealing effectiveness (column 1, lines 42-45). Therefore, it would have been obvious to one of ordinary skill in the art to modify the seal of Tong as taught by Julien et al in order to provide a seal that can be reused many times without losing its sealing effectiveness

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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12. The following references are cited to further show the state of the art with respect to segmented sealing rings: Thompson, Skinner et al, and Reluzco et al.

13. The following reference is cited to further show the state of the art with respect to sper elastic alloys: Hirasuna et al.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

16. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

mk
March 18, 2003


Anthony Knight
Supervisory Patent Examiner
Tech Center 3600